

*COLLOMIA MAZAMA* Coville, Proc. Biol. Soc. Wash. 11: 35. 1897. Near Crater Lake, in the Cascade Mountains of Oregon, at an altitude of 1900 meters, *Coville and Leiberg 429*. A beautiful, blue-flowered species, especially common in the swampy meadows along the western boundary of the Park. It is known only from Crater Lake Park and from Jackson County, Oregon.

*CASTILLEJA APPLIFICATEI* Fernald, Erythea 6: 49. 1898. Summit of Mount Scott (2800 meters), Klamath County, Oregon, *Applegate 87*. The corolla is nearly three centimeters long. The galea is greenish-backed, with its upper three-fourths exerted. A handsome species known only from the Park and its immediate vicinity.

*SAMBUCUS LEIOSPERMA* Leiberg, Proc. Biol. Soc. Wash. 11: 40. 1897. Crater Lake, Oregon, altitude 2230 meters, *Coville and Leiberg 370*. This species is a synonym of *S. racemosa* L.

*MACHAERANTHERA INOPS* Nelson and Macbride, Bot. Gaz. 62: 148. 1916. On Glacier Mountain [Glacier Peak?], Oregon, in the Crater Lake region, *Walpole 2288*. A depauperate rayless perennial with fuscous pappus. The involucre bracts are minutely pubescent, obscurely or not at all glandular, linear-oblong, subacute, with some of the tips refracted. This species is known only from the type locality and its vicinity.

*MACHAERANTHERA INOPS* Nelson and Macbride var. *ATRATA* Nelson and Macbride, Bot. Gaz. 62: 148. 1916. Crater Lake Park, on firm pumice gravel at the summit of Llaio Rock, *Coville 1470*. The variety is like the species except that it has fewer stems and fewer but larger heads. The involucre are broadly turbinate rather than hemispherical, the bracts having either dark-purple striations or margins.

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## NOTES ON ARABIS L.

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In the course of a study of the genus *Arabis* as it occurs naturally in the Pacific Northwest, it has frequently been necessary to consider material from adjacent areas. In doing so several items involving the change of specific or varietal units, not within the range of prescribed study, have come to my attention.

In the citation of specimens the following abbreviations are used: University of California, Berkeley (UC); Pomona College, Claremont, California (P); United States National Herbarium (US); State College, Pullman, Washington (WSC).

*Arabis Hoffmannii* (Munz) comb. nov. *A. maxima* Greene var. *Hoffmannii* Munz, Bull. So. Calif. Acad. Sci. 31: 3. 1932.

Coarse perennial; stems one to several from a deep woody and scaly caudex, branched above, entirely glabrous or very sparsely pubescent below, 5–7 dm. high; basal leaves numerous, crowded, linear-lanceolate, sinuate-dentate, obtuse, glabrous or nearly so above, pubescent with dendritic hairs below, coriaceous, 5–10 cm. long, 6–10 mm. wide, mid-rib wide and prominent, petiole broadly winged to the base; cauline leaves sessile, crowded linear-oblong, obtuse, auriculate and somewhat clasping, green and glabrous above, pubescent below, 3–6 cm. long, 4–6 mm. wide; sepals oblong, obtuse, green, glabrous or sparsely pubescent, 4–5 mm. long; petals linear-oblong, slightly narrowed toward the base, white, conspicuously midveined, 8–10 mm. long; fruiting raceme elongated (half the length of the stem); pedicels ascending, glabrous, 1–4 cm. long; pods erect-spreading, becoming slightly arcuate, glabrous, thick and coriaceous, nerveless, obtuse, 6–10 cm. long, 2–3.5 mm. wide, style short and stout; seeds orbicular, narrowly winged, 1 mm. broad, biserial.

While definitely related to *Arabis maxima* Greene, this unit is easily characterized as a specific entity. It differs from *A. maxima* in the following essentials: (1) coriaceous basal leaves which are green and glabrous above and possess a broadly winged petiole; (2) glabrous stems which are profusely branched above; (3) pedicels long, glabrous and ascending; (4) pods nerveless, thick and coriaceous; (5) seeds small, orbicular, narrowly winged and definitely biseriolate.

CALIFORNIA. Santa Cruz Island: without locality, April, 1888, T. S. Brandegee (UC); ledges in sea cliffs east of Dick's Harbor, February 28, 1932, R. Hoffmann 653 (P, type of *A. maxima* var. *Hoffmannii* Munz); May 23, 1932, R. Hoffmann.

It will be noted that *Arabis Hoffmannii* is exclusively insular, inhabiting the sea cliffs, whereas *A. maxima* is continental and commonly collected at lower elevations in California. The hiatus in the ranges of these two units is a further evidence of specific delimitation.

ARABIS LEMMONII Watson var. *depauperata* (Nelson and Kennedy) comb. nov. *A. depauperata* Nelson and Kennedy, Proc. Biol. Soc. Wash. 14: 35. 1906.

Stems numerous, filiform, simple or often branched above, stellate pubescent at least below, 8–20 cm. high, many of the stems sterile; basal leaves narrowly oblanceolate, finely and densely stellate pubescent, petiolate, 6–20 mm. long, 2–4 mm. wide; cauline leaves sessile, lanceolate, obtuse, pubescent or the uppermost glabrate, 4–10 mm. long; flowers small; sepals 2 mm. long; petals pink, 4–5 mm. long; pedicels pubescent; pods horizontal or erect-spreading, glabrous, fruiting raceme elongated (almost one-half the length of the stem).



PLATE XXI. ARABIS HOFFMANII (MUNZ) ROLLINS. Photograph of type (Pomona College Herbarium, no. 180269).

The variety *depauperata* differs from the species in having linear-oblancoolate basal leaves, pubescent lanceolate cauline leaves, and filiform pubescent branching stems; also the pods are usually ascending, whereas in *A. Lemmonii* the pods are either horizontal or somewhat pendulous.

NEVADA. Washoe County: summit of Mount Rose, Aug. 17, 1906, *Kennedy 1167* (UC, isotype of *A. depauperata* Nelson and Kennedy); July 28, 1909, *Heller 9868* (US). CALIFORNIA. Placer County: Tinkers Knob, July 18, 1897, *C. F. Sonne* (UC). Eldorado County: Mount Tallac, July, 1903, *Hall & Chandler 4624* (UC). Lake Tahoe Region: top of Ellis Peak, July 13, 1923, *W. C. Blasdale* (UC).

ARABIS RECTISSIMA Greene, *Pittonia* 4: 191. 1900. This species, heretofore almost unrecognized, has been found to be a valid and distinct specific unit. It has been collected from points in southern Oregon to Tulare County, California. The collections from California cited below will serve to show its distribution in that state.

CALIFORNIA. Siskiyou County: Black Butte north of Sisson, June 23, 1916, *Heller 12421* (US, WSC). Plumas County: Prattville, July 11, 1907, *Heller & Kennedy 8809* (UC). Lake Tahoe Region: Rubicon Park, July 16-21, 1901, *Setchell & Dobie* (UC). Yosemite Creek and Indian Canyon to Porcupine Flat, Yosemite National Park, July, 1902, *Hall & Babcock 3481* (UC); Indian Creek, July 20, 1911, *Hall 9177* (UC); Inspiration Rock, 1860-67, *Bolander 4904* (UC). Fresno County: Dinkey Creek, June 25, 1900, *Hall & Chandler 346* (UC). Tulare County: Sequoia National Park, June, 1896, *Purpus 1797* (UC); Olancha Mountain, June 25-30, 1904, *Hall & Babcock 5290* (UC).

State College of Washington,  
Pullman, March 9, 1936.

## VARIETIES OF THE DESERT WILLOW, *CHILOPSIS LINEARIS*

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In the course of determining my collections from the Mesilla Valley of the Rio Grande, in New Mexico, I noticed that the material of *Chilopsis* differed from the common form, known as *Chilopsis linearis* in the deserts of California. The New Mexican plants had the leaves erect and very strongly glutinous. The Index Kewensis gave the name *Chilopsis glutinosa* Engelm. which I looked up in the Botany of Wislizenus Expedition. Engelmann here mentions two forms, "one from the neighborhood of Saltillo with larger, paler flowers, broader, not glutinous leaves, and woolly branchlets, perhaps the *Ch. saligna* Don; the other from New Mexico and Chihuahua with longer, narrower glutinous leaves, perfectly glabrous, glutinous branchlets and darker and